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(YOR.235)

REMARKS

Entry of this Amendment is proper because it does <u>not</u> raise any new issues requiring

further search by the Examiner, narrows the issues on appeal, and is believed to place the present

application in condition for immediate allowance.

Claims 1-25 are all the claims presently pending in the application.

Claims 1-14 stand rejected on prior art grounds under 35 U.S.C. § 103(a) as being

unpatentable over Yutaka, et al. (U.S. Patent No. 5,664,163) in view of Peaslee, et al. (U.S.

Patent No. 5,265,203). Claims 15-17 stand rejected under 35 U.S.C. § 103(a) as being

unpatentable over Yutaka, et al. in view of Peaslee, et al., and in further view of Zhao, et al.

(U.S. Patent No. 6,405,267). Claims 18-20 stand rejected under 35 U.S.C. § 103(a) as being

unpatentable over Yutaka, et al. in view of Peaslee, et al., and in further view of Pike (U.S.

Patent No. 4,555,775). Claims 21-24 stand rejected under 35 U.S.C. § 103(a) as being

unpatentable over Yutaka, et al. in view of Peaslee, et al., and in further view of Epard, et al.

(U.S. Patent No. 5,241,625). Claim 25 stands rejected under 35 U.S.C. § 103(a) as being

unpatentable over Yutaka, et al. in view of Peaslee, et al., in further view of Epard, et al., and in

further view of Nitta, et al. (U.S. Patent No. 6,392,619).

These rejections are respectfully traversed in the following discussion.

I.   THE CLAIMED INVENTION

Applicants' invention, as disclosed and claimed, relates to a data transferring apparatus

(and method) for transferring transfer packets each including one or more transfer data as

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objectives of transfer from a first apparatus to a second apparatus, wherein each transfer data includes commands indicating processes against a preliminarily assigned area.

In conventional devices, a raster interface is used to transfer image data, for example, from a computer to a display apparatus, which requires a large amount of data. However, when an ultra-high resolution display apparatus is used, there is a possibility that the data transferring capacity of the communication channel between the computer and the display apparatus will not be sufficient (e.g., se specification at page 1, lines 7-13).

The claimed invention, on the other hand, <u>solves the problems associated with such an image data stream being transferred from a computer to an ultra high resolution display apparatus</u> (e.g., see specification at page 1, lines 17-18, and page 2 lines 1-2).

For example, in an illustrative, non-limiting aspect of the invention as defined, for example, in independent claim 1, the first apparatus includes <u>a scheduler for merging a plurality of the transfer data meeting a certain requirement,</u> and a communication controller for generating transfer packets each including one or more transfer data whose amount is within a certain predetermined range or one or more merged transfer data. The communication controller transfers the generated transfer packets to the second apparatus.

Independent claim 2 somewhat similarly recites that the first apparatus includes <u>means for merging a plurality of the transfer data meeting a certain requirement,</u> means for generating transfer packets each including at least one of one or more the transfer data whose amount is within a certain predetermined range and one or more the merged transfer data, and means for transferring the generated transfer packets to the second apparatus.

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In yet other exemplary aspects of the invention as defined, for example, in independent

claims 7 and 11, a method includes merging a plurality of the transfer data meeting a certain

requirement, generating transfer packets each including one or more transfer data whose

amount is within a certain predetermined range or one or more merged transfer data, and

transferring the generated transfer packets to the second apparatus.

II.   THE PRIOR ART REJECTIONS

Applicants incorporate herein by reference in their entirety the traversal arguments set

forth in the Amendment under 37 C.F.R. § 1.111 filed on September 24, 2004.

A.   Claims 1-14 stand rejected on prior art grounds under 35 U.S.C. § 103(a) as being

unpatentable over Yutaka in view of Peaslee.

With respect to the Examiner's arguments regarding the differences between Yutaka and

Peaslee, Applicants respectfully disagree with the Examiner's position.

Independent claim 1

With respect to independent claim 1, Applicants respectfully note that the Examiner has

not responded to all of Applicants' traversal positions.

For example, the Examiner merely argues that the definition of "merging operations"

provided by Applicants' Amendment filed on September 24, 2004 is not considered as a part of

claim 1 (see Office Action at page 3, lines 7-21; see also, numbered paragraphs 2-5, 11-13, and

16-19 of the present Office Action). Thus, the Examiner does not appear to have considered any

of Applicants' other traversal arguments based solely on this reason.

Applicants respectfully submit, however, that the Examiner should have considered all of

Applicants rebuttal arguments (e.g., see M.P.E.P. § 2144.08, *citing* In re Soni, 54 F.3d 746, 750

34 USPQ2d 1684, 1687 (Fed. Cir. 1995), including those with respect to the stated reasons for

combining the references to arrive at the claimed invention (i.e., the motivation for combining

the references to arrive at the claimed invention).

That is, the Examiner has not properly responded to Applicants positions with respect to

the lack of motivation for the ordinarily skilled artisan to modify Yutaka based on Peaslee to

arrive at the claimed invention.

Indeed, Applicants respectfully submit that Yutaka clearly does not disclose or suggest

all of the features of the claimed invention for which it is relied upon, and more particularly, a

"*scheduler for merging a plurality of said transfer data meeting a certain requirement*", as

claimed in independent claim 1.

Thus, Applicants respectfully submit that further defining the claim term "*merging*" is

not necessary to overcome the rejection of independent claim 1 based on the alleged combination

of Yutaka and Peaslee.

Also, Applicants respectfully note that the "merging operations" features which the

Examiner alleges are not defined in claim 1 are, in fact, exemplarily defined in claims 15-19.

Applicants submit that claims 15-19, which define more clearly the "merging" operation of

independent claims 1, 2, and 7, are patentable for the reasons set forth below.

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Independent claim 2

With respect to independent claim 2, the Examiner alleges that the claimed "*light diffusing means*" are <u>not</u> recited in the rejected claim, and that although claims are interpreted in light of the specification, limitations form the specification are not read into the claims (see Office Action at page 5, numbered paragraph 3, lines 7-11).

Applicants respectfully note that the single occurrence of "*light diffusing means*" in the traversal arguments at page 16 of the Amendment filed on September 24, 2004 was a <u>typographical error</u>, and properly should have stated "means for merging", as defined by claim 2.

Indeed, the remainder of the traversal arguments <u>clearly stated and argued</u> that Yutaka and Peaslee, either alone or in combination, do <u>not</u> disclose or suggest any structure, equivalents thereof, or identity of function necessary for the claimed "*means for merging*", as recited in claim 2.

Applicants respectfully submit that this typographical error should have been evident from the surrounding text and the additional traversal arguments and should not have formed the sole basis for failing to consider the arguments with respect to claim 2.

For example, the Amendment filed on September 24, 2004 specifically noted that independent claim 2 recites, *inter alia*, a first apparatus including:

> **means for merging** <u>a plurality of said transfer data meeting a certain requirement;</u>
> means for generating transfer packets each including at least one of one or more said transfer data whose amount is within a certain predetermined range and one or more <u>said merged transfer data</u>; and
> means for transferring said generated transfer packets to said second apparatus (emphasis added).

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Applicants also argued that, in the present application, the specification discloses *"means*

for merging a plurality of the transfer data meeting a certain requirement", as claimed.

Indeed, Applicants clearly submitted that, Yutaka and Peaslee, either alone or in

combination, do <u>not</u> disclose or suggest <u>any structure, equivalents thereof, or identity of function</u>

necessary for the claimed *"means for merging"* as recited in claim 2.

Applicants respectfully submit that the Examiner should have considered <u>all</u> of

Applicants rebuttal arguments (e.g., see M.P.E.P. § 2144.08, *citing* <u>In re Soni</u>, 54 F.3d 746, 750

34 USPQ2d 1684, 1687 (Fed. Cir. 1995), including those with respect to the claimed *"means for*

merging" as recited in claim 2. Indeed, <u>by definition</u>, a feature which is defined under 35 U.S.C.

§ 112, sixth paragraph (i.e., a "means-plus-function" feature) <u>does</u> include the structure, and

reasonable equivalents thereof, as set forth in the specification.

<u>Dependent claims 3-6</u>

Applicants submit that claims 3-6 are patentable over the cited references by virtue of

their dependency from claim 2, as well as for the additional features defined therein.

For example, with respect to dependent claims 3 and 4, the Examiner argues that Yutaka

provides a scheduler for judging whether an offset can be performed by merging an increment of

data volume caused by a change of drawing commands (see Office Action at page 10, lines 8-10,

numbered paragraphs 14 and 15). <u>Applicants respectfully disagree</u>.

In Yutaka, an offset changing instruction (e.g., see Yutaka at column 8, line 60) is a

<u>control instruction</u> that modifies the origin of the coordinate system for drawing operations. This

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offset, however, <u>has nothing to do with the amount of the data volume</u> that the present application is intended to reduce.

Thus, Applicant respectfully submits that Yutaka and Peaslee, either alone or in combination, clearly do <u>not</u> disclose or suggest all of the features of claim 3. Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection of claim 3.

Independent claims 7 and 11

For somewhat similar reasons as those set forth above with respect to independent claim 1, Applicants submit that Yutaka and Peaslee, either alone or in combination, do <u>not</u> disclose or suggest all of the features of novel and unobvious methods defined by claims 7 and 11.

B.   <u>Claims 15-17</u> stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yutaka in view of Peaslee, and in further view of Zhao.

Applicants note that Zhao provides a method to sort graphics commands that the bus transfers in a different order from the one in which the software originally generated. This method allows graphics systems to use a write combining (WC) technology (e.g., see Zhao at column 2, lines 14-20) or other weakly-ordered bus protocols (e.g., see Zhao at column 2, lines 43-45), which can transfer graphics command and parameters more efficiently than strongly-ordered bus protocols.

The Zhao method is <u>clearly is different</u> from the claimed invention in several respects.

For example, Zhao's method increases the effective bus bandwidth only by recording or combining graphics commands/parameters. Here, the "combining" in the write combining

technology means to send multiple commands or data in a single transfer operation and is clearly

different from "*merging*" operations that the present application provides.

That is, the claimed invention provides a different and more aggressive method than the

Zhao's method. For example, in the claimed invention, the first apparatus reduces the amount of

transmitting graphics commands/data by merging them before transmitting them to the second

apparatus when certain conditions are met. Thus, the method in the claimed invention is capable

of increasing the transmission efficiency much higher than the Zhao's method does.

Thus, Applicants respectfully submit that Zhao clearly does <u>not</u> make up for the

acknowledged deficiencies of Yutaka and Peaslee. Therefore, Applicants respectfully request

that the rejection of claims 15-17 be withdrawn.

C.   <u>Claims 18-20</u> stand rejected under 35 U.S.C. § 103(a) as being unpatentable over

Yutaka in view of Peaslee and in further view of Pike.

The Examiner alleges that the new layer is only transferred if it is unique, which means

that only update areas on a frame memory in a form of drawing commands are transferred to the

second apparatus in Pike (e.g., see Pike at page 13, line 21, to page 14, line 2). However,

<u>Applicants respectfully disagree</u> with the Examiner's position.

In Pike, when a new layer is created, lists of obscured rectangles are updated as necessary

in order to enable responsive screen updates when the order of layers is changed (e.g., upfront ( )

is called) (e.g., see Pike at column 11, lines 21-27). The addrect( ) checks the uniqueness of

obscured rectangles. That is, if the rectangle is not unique in addrect( ), the rectangle should

have been obscured by another layer on the screen. This is because the rectangles passed to

addrect( ) are ordered (e.g., see Pike at column 12, lines 8-9).

Therefore, Applicants respectfully submit that, contrary to the Examiner's position, the

uniqueness of the rectangles, as described by Pike, has nothing to do with the data/command

transmission from the first apparatus to the second apparatus.

Thus, Applicants respectfully submit that Pike clearly does not disclose or suggest all of

the features of the claimed invention, as alleged by the Examiner. Accordingly, Applicants

respectfully request that the Examiner withdraw this rejection.

D.   Claims 21-24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over

Yutaka in view of Peaslee and in further view of Epard.

The Examiner alleges that it would have been obvious to modify the devices of Yutaka

and Peaslee to include a first drawing engine in the first apparatus and a second drawing engine

in the second apparatus as suggested by Epard (e.g., see Office Action at page 15, numbered

paragraph 29, lines 3-5).

Applicants respectfully submit, however, that the alleged combination of the devices of

Yutaka and Peaslee with the system configuration of Epard would not provide the advantages

that the novel and unobvious claimed combination of the present application is intended to

provide. Such advantages of the claimed invention include, for example, a reduction in the

data/command traffic between the first apparatus and the second apparatus, which has been made

possible by using the exemplary method described, for example, in Figure 12 of the present

application.

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Thus, Applicants respectfully submit that it would <u>not</u> have been obvious to combine

Yutaka, Peaslee, and Epard to arrive at the claimed invention. Moreover, even assuming

arguendo that it would have been obvious to combine these references, as alleged, Applicants

respectfully submit that the alleged combination of Yutaka, Peaslee, and Epard would <u>not</u>

disclose or suggest all of the features of the claimed invention, or for that matter, provide the

clear advantages resulting from the novel and unobvious combination of features defined by

claims 21-24.

      E.   Claim 25 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over

Yutaka in view of Peaslee in further view of Epard and in further view of Nitta. Applicants

respectfully submit, however, that it would <u>not</u> have been obvious to combine these references,

and, even assuming *arguendo* that these references would be combined, the resulting

combination would <u>not</u> arrive at the claimed invention.

Applicants respectfully submit that the alleged combination of Yutaka, Peaslee, Epard,

and Nitta clearly would <u>not</u> disclose or suggest <u>all</u> of the features of the claimed invention, or for

that matter, provide the clear advantages resulting from the novel and unobvious combination of

features defined by claim 25.

For example, the Examiner alleges that it would have been obvious to modify Yutaka,

Peaslee, and Epard to include the features of the device of Nitta in order to account for the data

transfer delay (see Office Action at page 17, line 17, to page 18, line 2, numbered paragraph 33).

Applicant respectfully submits, however, that the alleged combination of the devices of

Yutaka, Peaslee, and Epard with the device of Nitta does <u>not</u> disclose or suggest <u>all</u> of the

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features of the claimed invention, or for that matter, provide the advantages that the present

application is intended to provide. Such advantages of the novel and unobvious claimed

invention according to the present application include, for example, a <u>reduction in the</u>

<u>data/command traffic</u> between the first apparatus and the second apparatus.

In fact, in contrast to the claimed invention, the device of Nitta provides a solution for an

orthogonal problem, which is the <u>power consumption of data lines</u> between the first apparatus

and the second apparatus, <u>not</u> a reduction in the data/command traffic.

In comparison, in the claimed invention, the data transfer delay allows the first apparatus

to merge certain graphics commands because each graphics command is queued in the first

apparatus until the communication link becomes ready to transmit the command to the second

apparatus. Thus, the claimed invention provides a <u>reduction in the data/command traffic</u>

between the first apparatus and the second apparatus.

For the foregoing reasons, Applicants respectfully submit that Yutaka, Peaslee, Epard,

and Nitta, either individually or in combination, do <u>not</u> disclose or suggest all of the features of

the claimed invention.

Indeed, Applicants respectfully submit that the Examiner appears to be attempting to

"*pick and choose*" elements and teachings from among <u>four (4) references</u>. Applicants

respectfully submit that such is clearly unreasonable on its face and based solely on

impermissible hindsight.

F.   As an aside, Applicants respectfully reiterate that Vegesna (U.S. Patent No.

5,640,588) has been cited but not relied upon by the Examiner in rejecting the claims of the

present application.

Therefore, Applicants have not commented on the Vegesna reference, or the Examiner's

characterization of the Vegesna reference, at this time. Applicants reserve the right to traverse

the Vegesna reference should it subsequently be relied upon by the Examiner in a newly raised

ground of rejection.

III.   FORMAL MATTERS AND CONCLUSION

Applicants thank the Examiner for kindly acknowledging receipt of and approving the

formal drawings filed on October 10, 2000 (see Office Action at page 7, numbered paragraph 8,

lines 3-4).

In view of the foregoing, Applicants submit that claims 1-25, all the claims presently

pending in the application, are patentably distinct over the prior art of record and are in condition

for allowance. The Examiner is respectfully requested to pass the above application to issue at

the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the

Examiner is requested to contact the undersigned at the local telephone number listed below to

discuss any other changes deemed necessary in a telephonic or personal interview.

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The Commissioner is hereby authorized to charge any deficiency in fees or to credit any

overpayment in fees to Assignee's Deposit Account No. 50-0510.

Respectfully Submitted,

Date: _March 14, 2005_

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<u>**CERTIFICATE OF TRANSMISSION**</u>

I certify that I transmitted via facsimile to (703) 872-9306 the enclosed Amendment

under 37 C.F.R. § 1.116 to Examiner Joni Hsu on March 14, 2005.

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